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## PROMPT NEUTRON EMISSION FROM $^{239}\text{Pu}$ AND $^{235}\text{U}$ FISSION FRAGMENTS

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A series of experiments has been performed to measure the dependence on the fragment mass and total kinetic energy of the average number and energy of prompt neutrons emitted from  $^{235}\text{U}$  and  $^{239}\text{Pu}$  fission fragments in thermal neutron induced fission. The experiments were carried out using neutrons from the PNPI WWR-M research reactor in Gatchina. For  $^{239}\text{Pu}$  target the fragment - neutron correlation measurement was also performed at the first resonance range. In this case the range of the strong resonance at 0.296 eV was selected by Sm filter which was arranged in the neutron flux from the reactor.

The direction-sensitive twin ionization chamber with Frish grids was used for the fission fragment spectroscopy. The prompt neutrons accompanying fission were detected with twelve stilbene crystal which were placed at a distance of 40 cm from the fission chamber. The neutron energy was determined using time-of-flight technique. The time resolution of each neutron detector was estimated as at least not worse 2ns (FWHM) from the width of the prompt gamma-ray peak observed in the time spectrum. The pulse shape discrimination technique was used to separate prompt neutron and gamma - ray events.

The description of experimental set-up and some results of this research are presented in this article.